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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,902	02/20/2004	Cheol-jin Park	Q77979	5335
23373	7590	11/19/2007		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER DINH, TUAN T	
			ART UNIT 2841	PAPER NUMBER
			MAIL DATE 11/19/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/781,902

Applicant(s)

PARK, CHEOL-JIN

Examiner

Tuan T. Dinh

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 12-28 is/are pending in the application.
- 4a) Of the above claim(s) 6-9, 12, 13, 15 and 18-21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 and 23 is/are allowed.
- 6) ☒ Claim(s) 1-5, 14, 16, 22 and 24-28 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 14, 16, 22, 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCutchan et al. (US 5,864,478) in view of Handforth et al. (US 6,061,241).

As to claims 1-5, 14, 16, McCutchan et al. discloses an inverter power module as shown in figure 1, comprising: a main board (11, column 2, line 52) having a power block (15, column 2, line 56, and 17, column 2, line 59) is arranged, the power block further including a plurality of first elements through hole-mounted on a front side of the main board and a sub-board mounting part (17) (claim 2); and a sub-board (13, column 2, line 54) having component is arranged, see figure 1, and is mounted on the main board (11), the sub-board mounting part (17) comprising at least one connector and the sub-board comprises a pin header (19, column 2, line 60) corresponding to the connector.

McCutchan et al. does not specific disclose an inverter block, which has second elements surface-mounted on one side or on front-back sides of the sub-board.

Handforth et al. shows an inverter module (200), the module having component elements (24), which is a FET to control heat dissipation contribution, ASIC (22) and feed resistors, and having a plurality of surface mounted components mounted on a substrate (12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Handforth et al. employed in the module of McCutchan et al. in order to achieve high productivity and functions operated in the circuit board.

Regarding claims 22, 24, McCutchan et al. as modified by Handforth shows the inverter block (200) (the block includes a FET 24, ASIC 22, and resistors) capable of being function to invert DC to AC.

Regarding claims 25-28, McCutchan et al. as modified by Handforth discloses the inverter block comprised an inverter-IC (FET 24 or ASIC 22), and two switching FET (24) and two protection elements (relays).

#### ***Allowable Subject Matter***

3. Claims 10, 23 are allowed.
4. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is an examiner's statement of reasons for allowance: neither the references cited nor the cited of references do teach or suggest the first elements

comprise a line filter; X-cap; Y-cap; a power-IC; an input rectifying block comprising a first switching FET; an output rectifying block comprising a diode, an inductor, and a capacitor, and a feedback circuit block comprising a photo-coupler, a power transformer, and an inverter transformer, and the second elements comprise a dimming element; an inverter-IC; a second switching FET; a third switching FET; a first protection element, and a second protection element.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

6. Applicant's arguments filed 08/29/07 have been fully considered but they are not persuasive.

Applicant argues:

For claims 1 and 16, McCutchan and Handforth do not disclose "an invert block". Examiner disagrees because in Handforth that teaches a module (200) including a FET (24), ASIC (22) and feed resistors capable being perform an invert function of the board, so at least in FET element (24) do/does invert current that applied into the module (200) to be invert signal or date from the module (200) to the board.

For claim 22, applicant argues that card module (200) does not invert DC-AC.

Examiner disagrees because McCutchan et al. as modified by Handforth shows these structure.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gutierrez F. Diego can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tuan Dinh  
November 10, 2007.



TUAN T. DINH  
PRIMARY EXAMINER

11/10/07